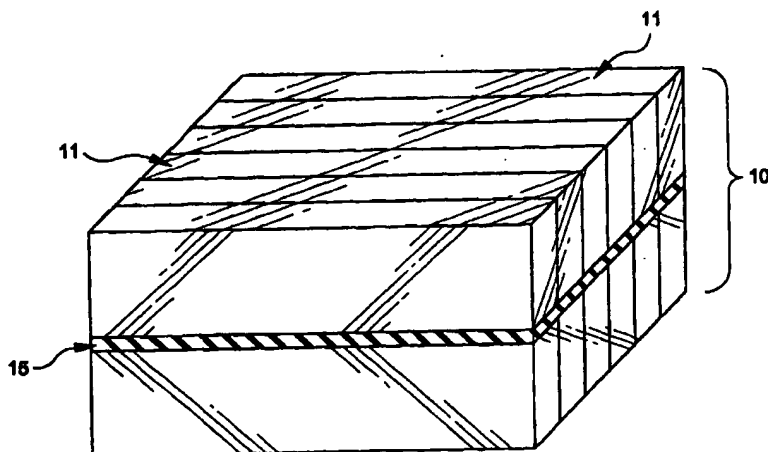


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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>B65D 5/54, 71/00, 75/58</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 99/35039</b> <b>(43) International Publication Date:</b> 15 July 1999 (15.07.99)
<b>(21) International Application Number:</b> PCT/US98/23919 <b>(22) International Filing Date:</b> 10 November 1998 (10.11.98)  <b>(30) Priority Data:</b> 09/002,850 5 January 1998 (05.01.98) US  <b>(71) Applicant:</b> WARNER-LAMBERT COMPANY [US/US]; 201 Tabor Road, Morris Plains, NJ 07950 (US).  <b>(72) Inventors:</b> LERMER, Stephen, Carl; 1525-202 Windermere Road, West Chester, PA 19380 (US). GITTER, David, Lindsay; 9 Argyle Road, Upper Montclair, NJ 07043 (US).  <b>(74) Agents:</b> RYAN, M., Andrea; Warner-Lambert Company, 201 Tabor Road, Morris Plains, NJ 07950 (US) et al.		<b>(81) Designated States:</b> AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HR, HU, ID, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, UZ, VN, YU, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i>

**(54) Title:** OVERWRAP TRAYPACK**(57) Abstract**

The present invention is directed to a combination overwrap and display tray for holding a plurality of packages for shipping and display. The present invention employs a polypropylene overwrap having a tear-off strip which encircles the overwrap. The overwrap is utilized to group the plurality of packages during shipping and for display purposes and the tear-off strip is used to remove a portion of the overwrap, thus exposing the individual packages at the retail location. The remaining portion of the overwrap may be utilized as a tray for retail sale and no separate tray is required. Instructions for use of the overwrap and display tray may be pre-printed on the wrap or the tear-off strip.

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**OVERWRAP TRAYPACK**5    Background of the Invention

## 1. Field of the Invention

10           This invention relates to overwraps which are utilized to surround and hold a plurality of packages for shipment and also, if desired, for retail display while minimizing the amount of waste packaging material.

## 15           2. Description of Related Art

For many years efforts have been ongoing to optimize wrapping and display materials for packages, such as small boxes, cassettes, etc., which are grouped together for shipping and display but intended to be sold separately through retail outlets. The efforts have been focused on both the shipping aspect, where durability and strength are important, and the display aspect, where visibility and stability are important. The common resulting situation is that separate materials are often used for wrapping the items during shipping and for displaying the items at a retail level. For example, a plastic film overwrap may be utilized to wrap the items during shipping and then removed in favor of a separate cardboard or other hard display tray which is used to display the items. The result of this common situation is that an excessive amount of material is utilized and retailers who do not wish to use the provided display are faced with the necessity of disposal of the bulky display tray, as well as the overwrap material, without receiving any benefit from the tray. Not only is this an inconvenience for the retailer and a waste of material, but it also raises environmental concerns; as the world's landfills are becoming

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30

ever more full the public is becoming ever more conscious of attempting to reduce waste materials.

Generally, existing package overwraps are not sufficient, by themselves,  
5 for use in retail product displays. Among the problems with the use of overwraps for display are that once overwraps are opened they do not provide the support, stability and/or visibility required for display purposes. Further, one of the most common methods of overwrapping, heat-shrinking, does not address the shipping/display issue. For example, U.S. Patent No. 5,048,687, issued to Suzuki et al. discloses a unit  
10 containing a number of packages wherein the packages are wrapped in a tubular outer wrap. The outer wrap consists of a flexible plastic film having top and bottom portions which are heat-shrinkable such that the inner packages are tightly bound together when the film is heat shrunk. Likewise, U.S. Patent No. 5,097,955, issued to Kluter et al. and U.S. Patent No. 5,067,612, issued to Tsuchiya et al. both also disclose units wherein the  
15 packages are ultimately bound together via shrink wrapping. The shrink wrapping process of these references produces a tight, strong package for shipping, however the shrink wrap material is not capable of being utilized for display purposes and consequently a separate display must be provided.

20 It would be advantageous to provide a combination display tray and overwrap which would provide the properties sufficient to allow shipping of the package as well as proper retail display. It would be further advantageous if the overwrap and tray reduced or eliminated the need to discard bulky unwanted or depleted trays.

### Summary of the Invention

The present invention is directed to a combination overwrap and display tray for holding a plurality of packages for shipping and display. The present invention employs a polypropylene overwrap having a tear off means which encircles the overwrap. The overwrap is utilized to group the plurality of packages during shipping and for display purposes and the tear off means is used to remove a designated portion of the overwrap, thus exposing the individual packages at the retail location. The remaining portion of the overwrap may be utilized as a tray for retail sale and no separate tray is required.

### Brief Description of the Drawings

**Figure 1** is a perspective view of a plurality of packages entirely enclosed by the overwrap of the present invention.

**Figure 2** is a perspective view of a plurality of packages entirely enclosed by the overwrap of the present invention with the tear strip removed.

**Figure 3** is a perspective view of a plurality of packages partially enclosed by the overwrap of the present invention.

**Figure 4** is a perspective view of a plurality of packages with the top portion of the overwrap being removed.

**Figure 5** is a perspective view of the present invention as on retail display with two of the plurality of packages removed.

#### Detailed Description of the Present Invention

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Reference will now be made to the presently preferred embodiments of the present invention. As illustrated in Figures 1 and 2, the present invention discloses a plurality of inner packages 11 which are held together via an outer overwrap 10. The overwrap completely encloses the plurality of packages and holds them all tightly together such that

10 the packages may be shipped or otherwise handled as a single unit. Preferred materials for the overwrap are non-heat shrinkable materials including polypropylene, oriented polypropylene and foamed polypropylene. These materials are preferred due to their inherent stiffness and propensity to tear as desired. A means for separating one or more portions of the overwrap, and preferably the top portion of the overwrap from the bottom

15 portion of the overwrap, is also provided. Preferably the means is in the form of tear strip 15 which encircles the wrapper and is heat-bonded to the wrapper, however the polypropylene is preferably also be scored, perforated or otherwise adapted to facilitate straight, clean tearing. Most preferably, the tear strip is placed over perforations 16 in the overwrap. Any desired number of tear strips may be employed. The tear strip is

20 preferably located in a position such that when it is removed it pulls and removes the top portion of the overwrap, thus exposing the tops of the individual packages. At the same time, the bottom portion of the overwrap remains in place and holds the plurality of inner packages in place. The most preferable location for the tear strip is approximately at the midpoint of the sides of the packages. The width of the tear strip may be variable and, in

addition, pre-printed opening instructions, such as "pull up and around to open" may be printed on the strip.

As shown in Figures 3 and 4, the removal of the tear strip will result in the removal  
5 of the top portion 10C of the overwrap resulting in open area 10A which exposes the tops  
of the individual packages. The bottom portion of the overwrap remains in place over the  
bottom portions of the plurality of packages and acts as a tray 10B for holding the packages  
in place. In this position, the packages may be neatly and securely displayed in a manner  
such that the retail customer may easily remove one or more of the packages for purchase.  
10 The consistency of tray 10B is such that one or more packages may be easily removed  
from the tray. As illustrated in Figure 5, opening 11A created by the removal of one or  
more packages does not damage the integrity of tray 10B. The tray portion 10B of the  
overwrap retains sufficient strength to hold any number of remaining packages in place  
upon the removal of one or more packages. In the event that the retailer does not desire to  
15 utilize the bottom portion of the overwrap as a tray, then only the small amount of  
polypropylene material which constitutes the bottom of the overwrap must be discarded.  
In any event, following the depletion of the packages only a small amount of waste  
material must be discarded. This is in stark contrast to currently available overwrap  
systems which require a separate, bulky tray portion which creates a large amount of waste  
20 when discarded.

The overwrap itself comprises a six-sided wrap such that all six sides of the  
plurality of packages are covered. The wrapping is formed around the plurality of inner  
packages and then sealed on both its top and the bottom ends so that the sealing portion

does not interfere with the tear off strip or strips. The wrapping process may take place on virtually any standard wrapping machine. Preferably, the wrapping is done with the grain of the polypropylene, i.e., the grain is in the same direction as the tear strip, in order to enhance the tearing of the wrapping. Following the wrapping process, the

5 polypropylene is heat sealed to itself on both the top and bottom of the package to produce a tightly wrapped package. The wrapping is not amenable to or subjected to a heat-shrinking step. In a preferred embodiment, the wrapping contains pre-printed graphics, most preferably on the bottom portion of the overwrap, in the form of instructions which instruct the shelf stocker to remove the top portion of the overwrap

10 and to leave the bottom portion of the overwrap on the packages for use as a tray. The final step is the addition of a tear-off strip and preferably perforations or other means to allow the top portion of the package to be neatly separated from the bottom portion. The tear-off strip may be heat sealed or otherwise affixed to the package.

15 While there have been described what are presently believed to be the preferred embodiments of the present invention, those skilled in the art will realize that various changes and modifications may be made to the invention without departing from the spirit of the invention, and it is intended to claim all such changes and modifications as fall within the scope of the invention.



We claim:

1. A package comprising:  
a plurality of inner packages; and  
5 an outer overwrap having at least two distinct and separate portions;  
wherein the overwrap comprises at least one means for separating the at least two  
separate portions of the overwrap and wherein at least one of the two distinct and separate  
portions is capable of forming a tray for holding the inner packages.
- 10 2. A package according to claim 1, wherein the overwrap comprises polypropylene,  
oriented polypropylene or foamed polypropylene.
3. A package according to claim 2, wherein the overwrap is comprised of polypropylene.
- 15 4. A package according to claim 2, wherein the at least two distinct and separate portions  
of the overwrap comprise a top portion and a bottom portion separated by a means for  
separating the top portion from the bottom portion.
5. A package according to claim 4, wherein the means for separating the top portion from  
20 the bottom portion comprises a tear-off strip.
6. A package according to claim 5, wherein the overwrap is scored or perforated.

7. A package according to claim 6, wherein the overwrap is scored or perforated under the tear-off strip.
8. A package according to claim 5, wherein the bottom portion of the package comprises  
5 a tray sufficient for holding one or more of the plurality of inner packages.
9. A package according to claim 5 wherein the overwrap and/or the tear-off strip contain graphics.
- 10 10. A package according to claim 9, wherein the graphics on the overwrap and/or the tear-off strip comprise instructions for removal of the top portion of the overwrap and the use of the bottom portion of the overwrap as a tray.
11. A method of providing an outer overwrap and a tray for a plurality of packages  
15 comprising the steps of:
- a) wrapping a plurality of inner packages with an outer overwrap comprised of non-heat shrinkable polypropylene, oriented polypropylene or foamed polypropylene; and
  - b) affixing a means for separating the outer overwrap into two or more portions with one of the portions of the overwrap comprising a tray.
- 20
12. A method according to claim 11, comprising the additional step of scoring or perforating the outer overwrap.

13. A method according to claim 12, comprising the additional step of printing graphics on the outer overwrap.

14. A method of providing a tray for a plurality of inner packages, with each inner  
5 package having a top portion and a bottom portion comprising the steps of:
- a) wrapping a plurality of inner packages with an outer overwrap comprised of non-heat shrinkable polypropylene, oriented polypropylene or foamed polypropylene,
  - b) affixing a tear-off strip to the outer overwrap to separate the outer overwrap into distinct top and tray portions; and
  - 10 c) removing the tear-off strip in a manner such that the top portions of the inner packages are exposed and the bottom portions of the inner packages remain within the tray portion of the outer overwrap.

15. A method according to claim 14, comprising the additional step of scoring or  
15 perforating the outer overwrap.

16. A method according to claim 15, comprising the additional step of printing graphics on the outer overwrap.

FIG-1

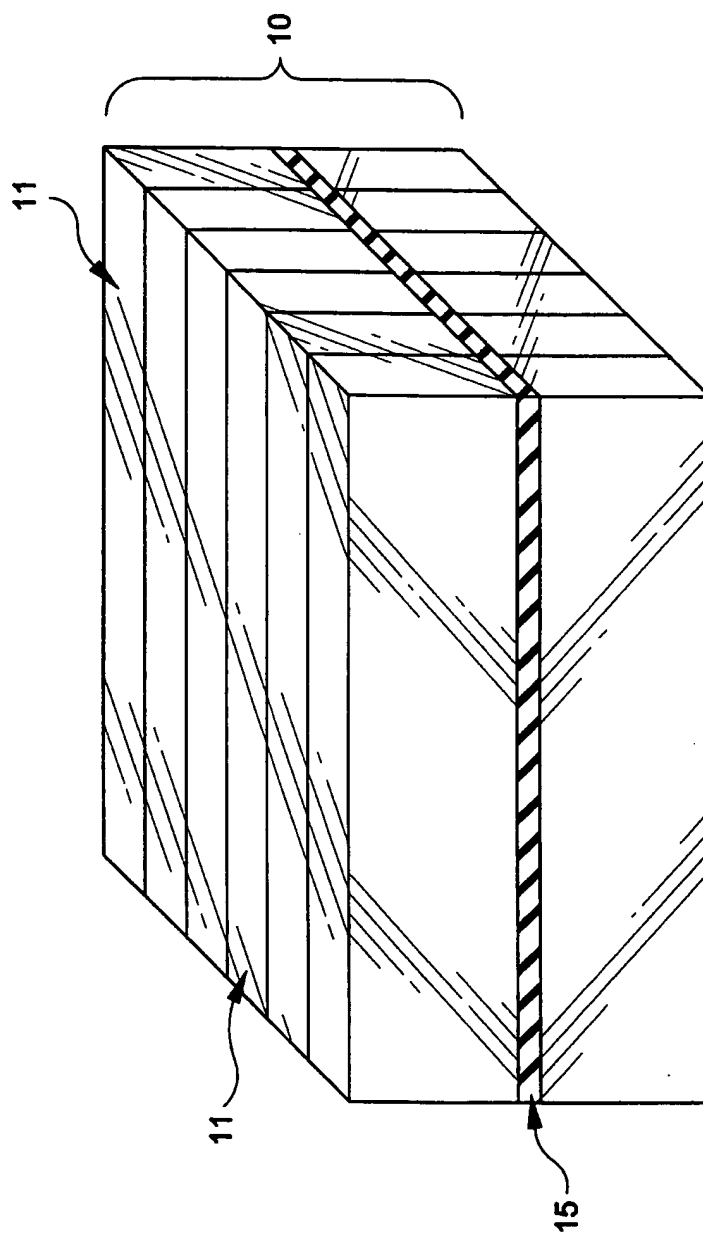


FIG-2

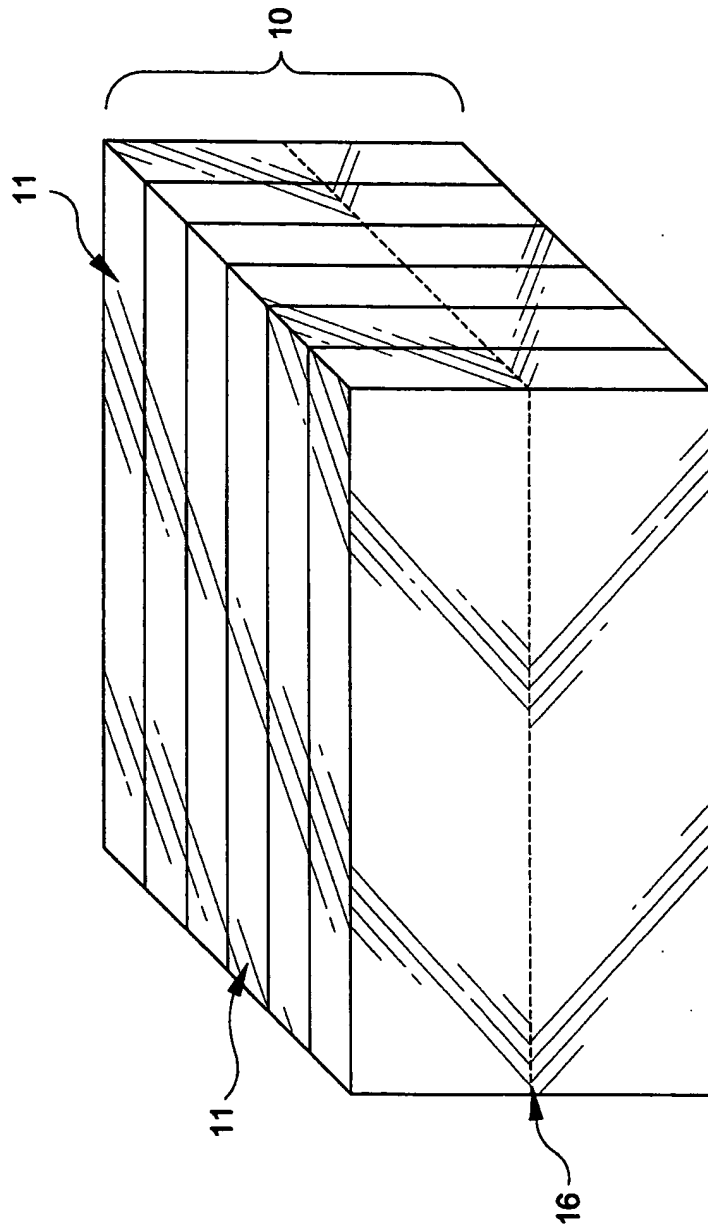


FIG-3

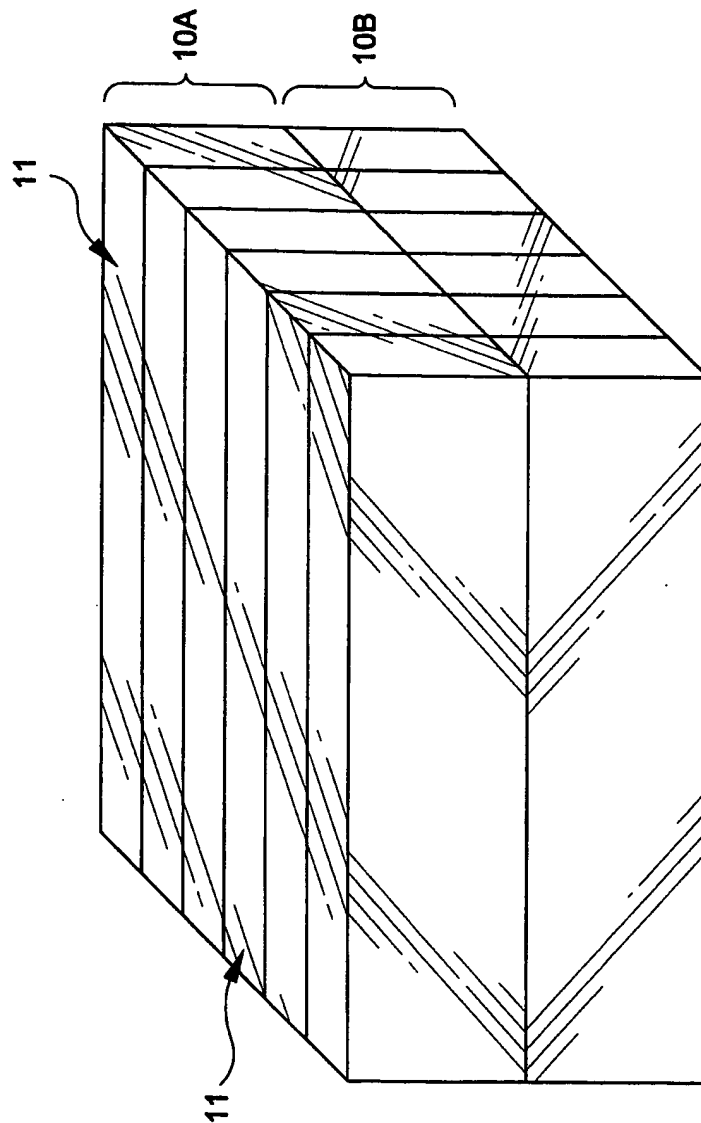
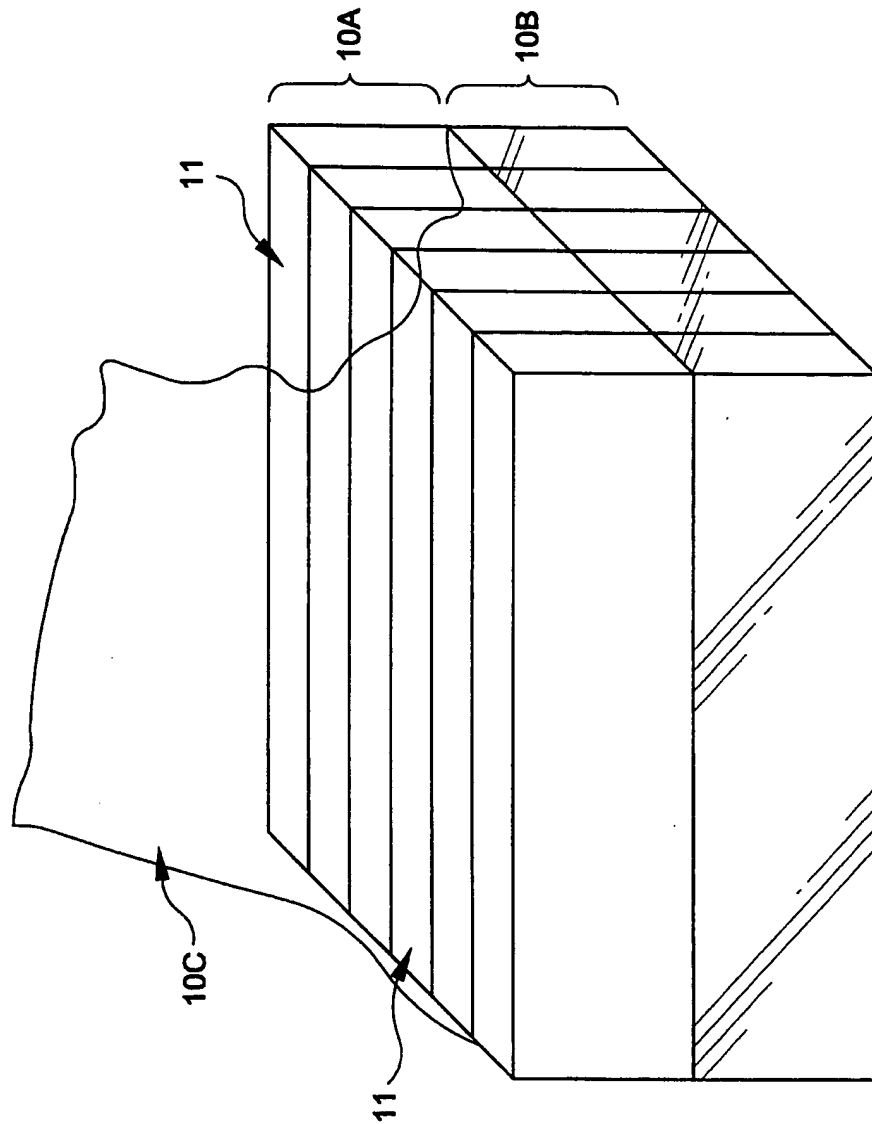


FIG-4



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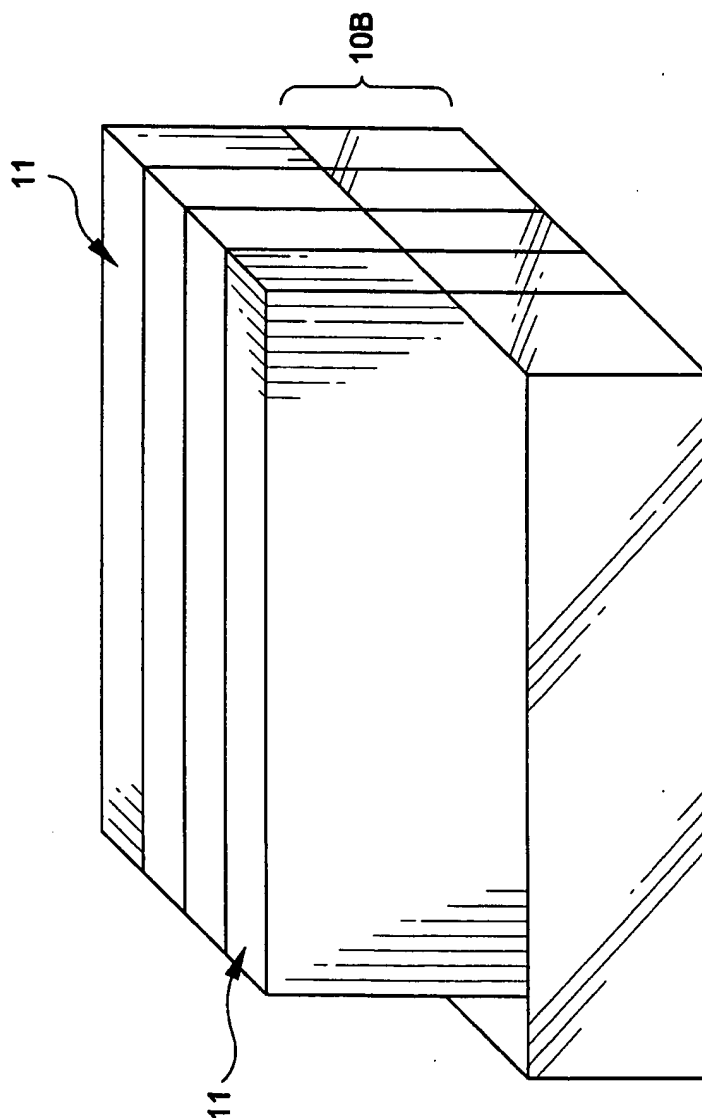


FIG-5



## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 98/23919

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 B65D5/54 B65D71/00 B65D75/58

According to International Patent Classification (IPC) or to both national classification and IPC

### B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 201 219 A (TETRA PAK INT) 26 April 1974 see page 4, line 26 - line 30 see page 5, line 1 - line 3; figure 4 ---	1-8, 11, 12
X	DE 296 20 394 U (OSTMA MASCHINENBAU) 6 February 1997	1, 4-8
Y	see page 3, line 9 - line 18; figures 2, 3 ---	2, 3, 9-16
Y	WO 88 08819 A (FELDMUEHLE AG) 17 November 1988 see the whole document ---	2, 3, 9-16
A	EP 0 706 948 A (EMI COMPACT DISC HOLLAND BV) 17 April 1996 see figure 5 ---	1, 11, 14

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☒ Further documents are listed in the continuation of box C.

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Date of the actual completion of the international search

2 March 1999

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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A	<p>US 4 586 312 A (LIMOUSIN JEAN-LOUIS) 6 May 1986 see the whole document</p>	1, 11, 14

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 98/23919

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2201219 A	26-04-1974	SE 392084 B AU 6115173 A CA 987580 A CH 574845 A DE 2349500 A GB 1397709 A JP 49072080 A NL 7313549 A	14-03-1977 10-04-1975 20-04-1976 30-04-1976 18-04-1974 18-06-1975 11-07-1974 05-04-1974
DE 29620394 U	06-02-1997	DE 29700830 U	13-03-1997
WO 8808819 A	17-11-1988	DE 3715308 A AT 61991 T EP 0358667 A JP 2503415 T US 5097955 A	24-11-1988 15-04-1991 21-03-1990 18-10-1990 24-03-1992
EP 0706948 A	17-04-1996	AT 176434 T AU 698322 B AU 3300295 A CA 2159883 A JP 8175534 A US 5582345 A	15-02-1999 29-10-1998 26-04-1996 09-04-1996 09-07-1996 10-12-1996
US 4586312 A	06-05-1986	NONE	